CLAIM AMENDMENTS

1. (Presently Amended) A device for coaxially mounting a machine element having a bore upon a shaft comprising:

a nut having threads and a first connector;

an outer sleeve for engaging the machine element, comprising:

a tapered external surface;

a tapered internal surface wherein the internal surface has a minor diameter adjacent a forward end of the outer sleeve and a major diameter spaced rearwardly from the forward end;

at least one axial slot extending longitudinally along the outer sleeve to permit expansion of the external surface of the outer sleeve;

a second connector cooperable with the first connector to connect the outer sleeve with the nut to impede substantial axial displacement of the outer sleeve relative to the nut while allowing rotation of the outer sleeve relative to the inner sleeve;

an inner sleeve for encircling the shaft, comprising:

a tapered external surface corresponding in angle of taper to the tapered internal surface of the outer sleeve and having a minor diameter adjacent a forward end of the inner sleeve and a major diameter spaced rearwardly from the forward end of the inner sleeve;

an interior bore corresponding in diameter to the shaft; and

a threaded portion remote from the forward end of the inner sleeve and cooperable with the <u>threads</u> ~~threaded portion~~ of the nut;

wherein rotating the nut in a first direction displaces the inner sleeve forwardly relative to the nut, which displaces the major diameter of the external surface of the inner sleeve toward the minor diameter of the outer sleeve internal surface, thereby causing the inner sleeve to contract against the shaft and the outer sleeve to

expand against the bore of the machine element, and wherein rotating the nut in a second direction displaces the inner sleeve rearwardly relative to the nut, thereby loosening the inner sleeve from the shaft and the outer sleeve from the bore of the machine element.

2. (Original) The device of claim 1 wherein the outer sleeve comprises a plurality of axial slots extending longitudinally along the outer sleeve, wherein the configuration and orientation of the slots provide sufficient radial flexibility to allow the outer sleeve to deflect to fit over the first connector of the nut.

3. (Original) The device of claim 2 wherein the first connector comprises a circumferential groove and the second connector comprises a flange extending radially inwardly, wherein said outer sleeve is sufficiently resilient such that the outer sleeve contracts after flexing to fit the flange into the groove.

4 (Original) The device of claim 1 wherein the external surface of the outer sleeve has a minor diameter and the nut has an external diameter that is greater than the minor diameter of the outer sleeve external diameter.

5. (Original) The device of claim 1 wherein the external surface of the outer sleeve has a major diameter and the outer sleeve comprises an external flange extending radially outwardly adjacent the major diameter of the outer sleeve external surface.

6. (Original) The device of claim 1 wherein one end of the inner sleeve is continuous about the circumference.

7. (Original) The device of claim 1 wherein the outer sleeve is a one-piece sleeve comprising a plurality of slots forming a plurality of sections connected by a web

that allows the outer sleeve to resiliently deflect radially.

8. (Original) The device of claim 1 wherein the outer sleeve comprises a stop engageable with the machine element to impede relative axial displacement between the outer sleeve and the machine element.

9. (Presently amended) A device for coaxially mounting a machine element having a bore upon a shaft comprising:

a one-piece inner sleeve for encircling the shaft, having a forward and rearward end, wherein the inner sleeve comprises:

a threaded portion adjacent the rearward end;

a frustoconical external surface having a major diameter adjacent the threaded portion and a minor diameter spaced from the major diameter toward the forward end of the inner sleeve;

an internal bore configured to cooperate with the shaft;

a nut having threads at one end and a circumferential flange at the distal end;

an outer sleeve configured to engage ~~engaging~~ the machine element, having a forward end and a rearward end, wherein the outer sleeve comprises:

a frustoconical internal surface corresponding in angle of taper to the frustoconical ~~tapered~~ external surface of the inner sleeve, and having a major diameter adjacent the rearward end and a minor diameter adjacent the forward end;

an external surface corresponding to the bore of the machine element; and

a circumferential interlock engaging the flange of the nut;

wherein upon rotation of the nut in a first direction, the threads of the nut engage with the ~~threads~~ threaded portion of the inner sleeve displacing the inner sleeve in one direction relative to the nut and the outer sleeve thereby displacing the major diameter of the inner sleeve external surface toward the minor diameter of the outer sleeve internal surface, the displacements causing the internal bore of the

inner sleeve to contract against the shaft and the external surface of the outer sleeve to expand against the bore of the machine element.

10. (Original) The device of claim 9 wherein the flange extends radially outwardly and the nut further comprises an annular groove adjacent the flange, wherein the outer sleeve is a one piece sleeve having sufficient resilience such that the outer sleeve contracts after flexing to fit over the flange thereby displacing the circumferential interlock into engagement with the circumferential groove.

11. (Original) The device of claim 9 wherein the outer sleeve comprises a frustoconical external surface having a minor diameter adjacent the forward end of the outer sleeve and a major diameter spaced rearwardly from the minor diameter.

12. (Original) The device of claim 11 wherein the nut has an external diameter that is greater than the major diameter of the outer sleeve external surface.

13. (Original) The device of claim 9 wherein the outer sleeve comprises a stop engageable with the machine element to impede relative axial displacement between the outer sleeve and the machine element.

14. (Original) The device of claim 9 wherein one end of the inner sleeve is continuous about the circumference.

15. (Original) A method for mounting a machine element onto a shaft, comprising the steps of:

providing an inner sleeve having forward and rearward ends, comprising:

a tapered external surface

a threaded portion adjacent the rearward end; and

a bore that is cooperable with the shaft;

providing an outer sleeve comprising:

an internal bore that is tapered to cooperate with the external surface of the inner sleeve; and

an external surface cooperable with the bore of the machine element;

providing a nut having a threaded portion that is cooperable with the threaded portion of the inner sleeve;

connecting the outer sleeve to the nut to impede substantial axial displacement of the outer sleeve relative to the nut while allowing rotation of the nut relative to the outer sleeve;

positioning the inner sleeve and the outer sleeve between the shaft and the bore of the machine element;

rotating the nut in a forward direction to drive the inner sleeve forwardly relative to the nut and the outer sleeve thereby displacing the forward end of the inner sleeve away from the nut, so that the tapered surface of the inner sleeve wedges apart the outer sleeve to connect the outer sleeve to the machine element and to connect the inner sleeve to the shaft;

wherein rotating the nut in a reverse direction drives the inner sleeve rearwardly relative to the nut and outer sleeve to release the outer sleeve from the machine element and to release the inner sleeve from the shaft.

16. (Original) The method of claim 15 wherein the tapered bore of the outer sleeve comprises a minor diameter adjacent the forward end of the outer sleeve, remote from nut, and the step of rotating the nut in the forward direction drives the inner sleeve through the minor diameter.

17. (Original) The method of claim 15 wherein the nut comprises a first interlocking element and the outer sleeve comprises a second interlocking element and the

step of connecting the outer sleeve to the nut comprises driving the outer sleeve toward the nut so that the outer sleeve deflects radially so that the second interlocking element rides over the first interlocking element.

18. (Original) The method of claim 17 wherein the outer sleeve resiliently displaces radially after the second interlocking element rides over the first interlocking element, thereby interlocking the first and second interlocking elements.

19. (New) The method of claim 1 wherein the first and second connectors are operable to impede substantial axial displacement of the outer sleeve relative to the nut in forward and rearward directions.

20. (New) The method of claim 1 wherein the threaded portion comprises left-hand threads so that rotating the nut in the first direction drives the inner sleeve forwardly toward the machine element.

Rule 1.126

21 20. (New) The device of claim 9 wherein rotating the nut in a second direction displaces the inner sleeve rearwardly relative to the nut, thereby loosening the inner sleeve from the shaft and the outer sleeve from the bore of the machine element.